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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,407	07/29/2003	Jae-Soon Lim	5649-1132	7226

20792 7590 02/09/2006

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EXAMINER

THOMAS, TONIAE M

ART UNIT	PAPER NUMBER
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2822

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,407

Applicant(s)

LIM ET AL.

Examiner

Toniae M. Thomas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06/16/05; 01/13/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 13 January 2006 has been entered.
2. Currently, claims 1-9 and 11-33 are pending.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 13 January 2006 has not been considered because the references cited therein were previously cited in the IDS submitted on 16 June 2005. The examiner has considered the IDS submitted on 6 June 2005. Please see the PTO-1449 forms attached hereto.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-9 and 11-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims

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contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claims 1, 14, 24, 32, and 33 have been amended to recite a limitation wherein the dielectric layer is formed at a second temperature, which is substantially the same as the temperature at which the protective/reaction-preventing layer is formed (claim 1, lines 8-9; claim 14, lines 7-9; claim 24, lines 15-17; claim 32, lines 9-11; and claim 33, lines 7-9). The specification as originally filed does not provide support for this claimed subject matter. The specification clearly states that both the protection/reaction-preventing layer and the dielectric layer are formed *at about 600°C or less* (for the temperature at which the dielectric layer is formed, see the specification at page 10, line 30 - page 11, line 2 and page 16, lines 18-22; and for the temperature at which the protection/reaction-preventing layer is formed, see the specification at page 7, lines 18-25; page 10, lines 9-14; and page 15, line 30 - page 16, line 9).

However, this simply means that the temperature at which the protection/reaction-preventing layer and the dielectric layer are formed cannot exceed a temperature of about 600°C. The fact that the temperature at which the protection/reaction-preventing layer and the dielectric layer are formed cannot exceed 600°C does not mean that the temperature at which the dielectric layer is formed is substantially the same as the temperature at which

the protection/reaction-preventing layer is formed. Moreover, nowhere in the specification does it state that the dielectric layer is formed at substantially the same temperature as the protection/reaction-preventing layer. Therefore, while the specification provides support for forming both the dielectric layer and the protection/reaction-preventing layer *at about 600°C or less*, the specification does not provide support for forming a dielectric layer on the protection/reaction-preventing layer at a temperature substantially the same as the temperature at which the protection/reaction-preventing layer is formed.

Response to Arguments

5. Applicant's arguments with respect to claims 1, 14, 24, 32, and 33 have been considered; however, the amendment filed on 13 January 2006 has overcome the rejection of claims 1, 14, 24, 32, and 33 under 35 USC §102(e) as set forth in the final Office action mailed on 17 October 2005. Therefore, Applicant's arguments with respect to claims 1, 14, 24, 32, and 33 are moot.

6. The amendment filed on 13 January 2006 has overcome the following rejections made of record in the final Office action mailed on 17 October 2005: the rejection of claims 1-3, 5, 7-9, 11, 14-16, 18, and 20-33 under 35 USC §102(e) as being anticipated by Oh et al. (US 6,784,100), the rejection of claims 14 and 17 under 35 USC §103(a) as being unpatentable over Oh et al., the rejection of claims 6 and 19 under 35 USC §103(a) as being unpatentable over Oh et al. in view of Wang (US 2003/0134486), and the rejection of claims 12 and 13 under 35 USC §103(a) as being unpatentable over Oh et al. in view of

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Dennison (US 5,340,765). Accordingly, the abovementioned rejections have been withdrawn.

7. Claims 1-9 and 11-33 are rejected in this Office action under 35 USC §112, first paragraph only. The prior art of record does not anticipate, teach or suggest a method for forming a capacitor substantially as claimed, wherein the method comprises: forming a protection layer/reaction-preventing layer on a lower electrode at a first temperature without a phase change of the lower electrode, and forming a dielectric layer on the previously formed protection/reaction-preventing layer at a second temperature substantially the same as the temperature at which the protection/reaction-preventing layer is formed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toniae M. Thomas whose telephone number is (571) 272-1846. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on (571) 272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TMT
05 February 2006

Toniae M. Thomas
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